Condition Analysis

Condition Analysis Report

Overview

The **Condition Analysis** feature allows you to view the condition of your pavement network, or any subset of the network you specify. The analysis is based on prior inspection data, interpolated values between previous inspections, and projected conditions based on family assignment. Once you specify the pavements that you would like to analyze and duration of time to be used, PAVER can predict the deterioration of your pavements. The **Condition Analysis** tool is invoked by clicking on the **Condition Analysis** button on the button bar or by going to the **Visual Menu** and selecting **Condition Analysis**, then selecting **Condition Analysis Report** from the sub-menu, and clicking on the **Continue** button.   The **Condition Analysis** parameter collection window appears on the screen.
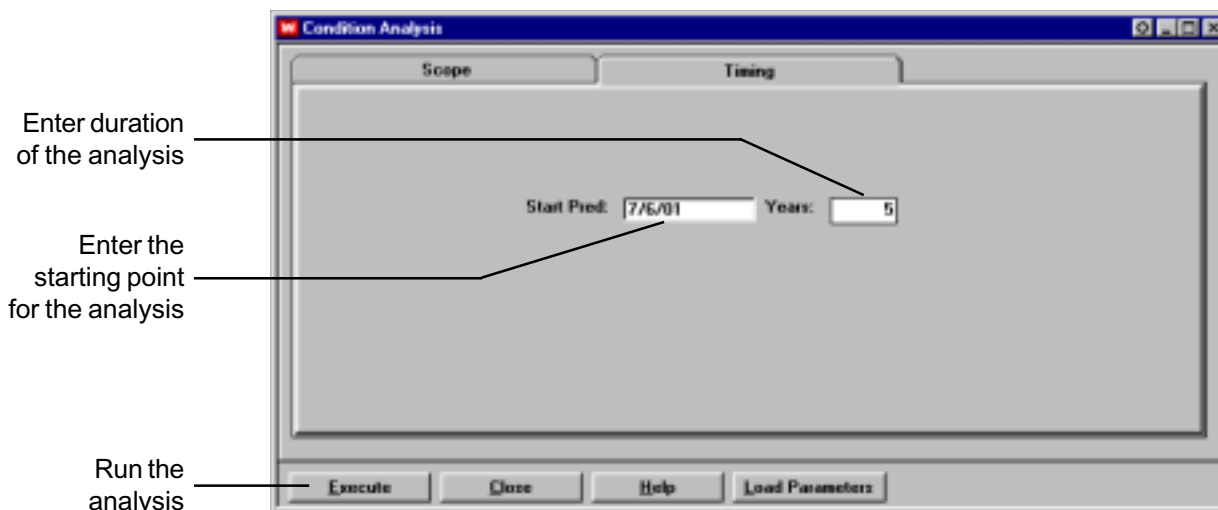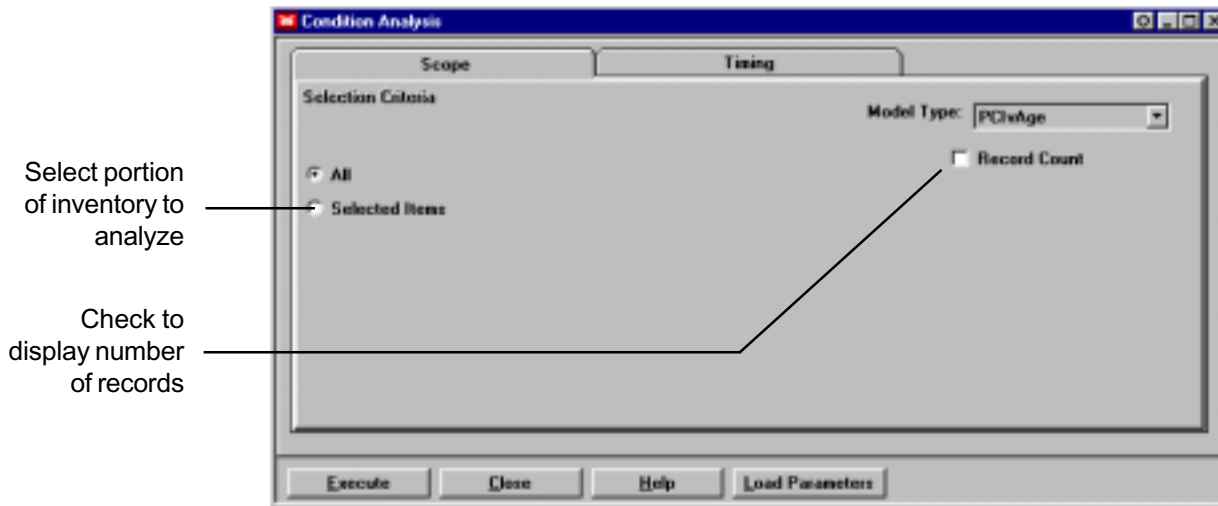
Configuring the Condition Analysis Report

Note

You can select a **Start Date** to show past condition.

When the **Condition Analysis** is selected, a window with two file cards appears. On the **Scope** card, the **Family Type** choices are **PCI v Age** or **IRI v Age**. At the left, two options are available for selecting inventory items to be reported: **All** and **Selected Items**. The default is set to **All.** Choose **Selected Items** to prompt the **EMS Query Tool** to select a subset or records for the report. After selections are made, the selection criteria is shown in the previously empty white box. The **Record Count** box shows the number of sections included in the current plan.

Behind the **Scope** card is the **Timing** card. Enter the desired date to start the prediction model in the box next to **Start Pred:**. Then, enter the number of **Years** to report. The report includes historical information and predicted condition for selected sections for each year for the selected number of years.

You can use previously saved report parameters using the **Load Parameters** button at the bottom of screen. A dialog box asks from where to load the report. **Condition Analysis** report files typically carry the extension "RPC." After loading the report parameters, you may change them as needed, then run the report.

Select portion of inventory to analyze

Check to display number of records

Enter duration of the analysis

Enter the starting point for the analysis
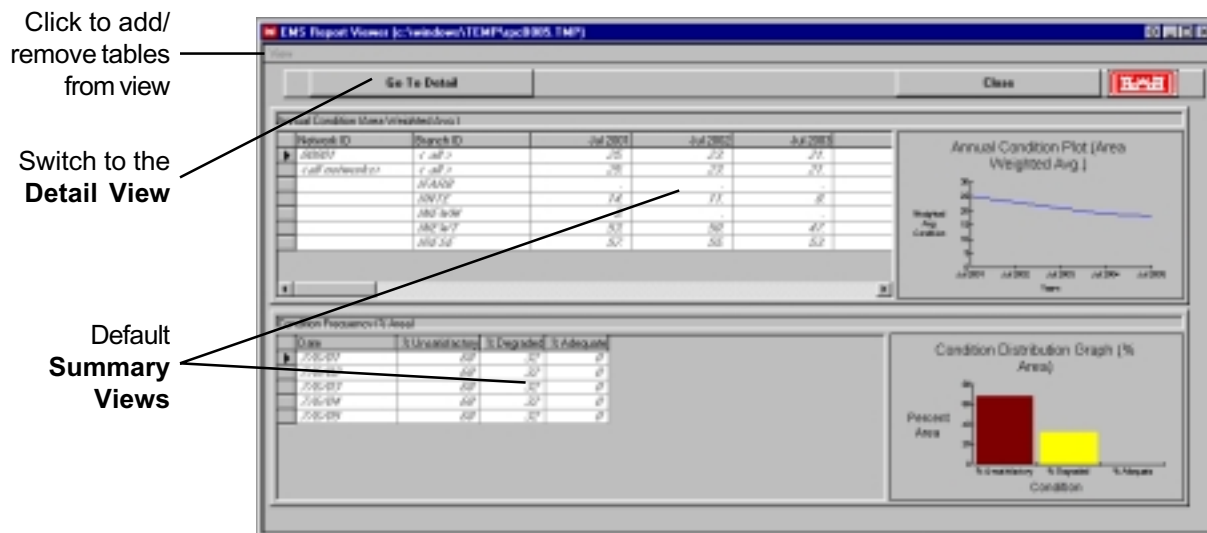
Run the analysis

Analyzing Pavements

Once you have configured the report, click the **Execute** button to start calculating the report. When the report calculations are completed, the **Condition Analysis Report** is presented in the **Report Viewer** tool. The default presentation of the report is a summary of conditions that includes two tables with corresponding graphs. The summary view includes the **Annual Condition (Arithmetic Average)** table that shows the average condition for each branch, for each year in the reporting period. The first row of the condition summary table is the average condition of all branches included in the report. The condition summary table is accompanied by a graph that plots the average condition for the highlighted branch (row) in the condition summary table.

The second view is the **Condition Frequency (% Area)** table and associated graph. The condition distribution table presents a histogram for each year of the specified reporting period with sections grouped into seven PCI categories (excellent, very good, good, fair, poor, very poor, and failed). The condition distribution graph presents a histogram for the highlighted year in the condition distribution table.

The **View** menu in the **EMS Report Viewer** can be used to add or remove tables and associated graphs from the report viewer screen or to switch between the summary and detail version of the report. To turn off one of the summary tables and its associated graph, select **View > Summary** and then select the table that you want to turn off. Tables and graphs that are active in the current report view have a check mark to the left of the table or graph name.

As usual, in order to zoom on a table or graph, right click on the desired object and select zoom. Other options can be selected with a right click such as: **Revise Layout**, **Change Sort Order**, **Export** and **Print Table**.

Click to add/
remove tables
from view

Switch to the
Detail View

Default
**Summary
Views**

Other Views

The detail version of the **Condition Analysis** report default presentation includes the **Section Condition** table and its associated graph as well as the **Inventory Items** table. The **Section Condition** table is linked (as the dependent table) to the **Inventory Items** table (parent table).
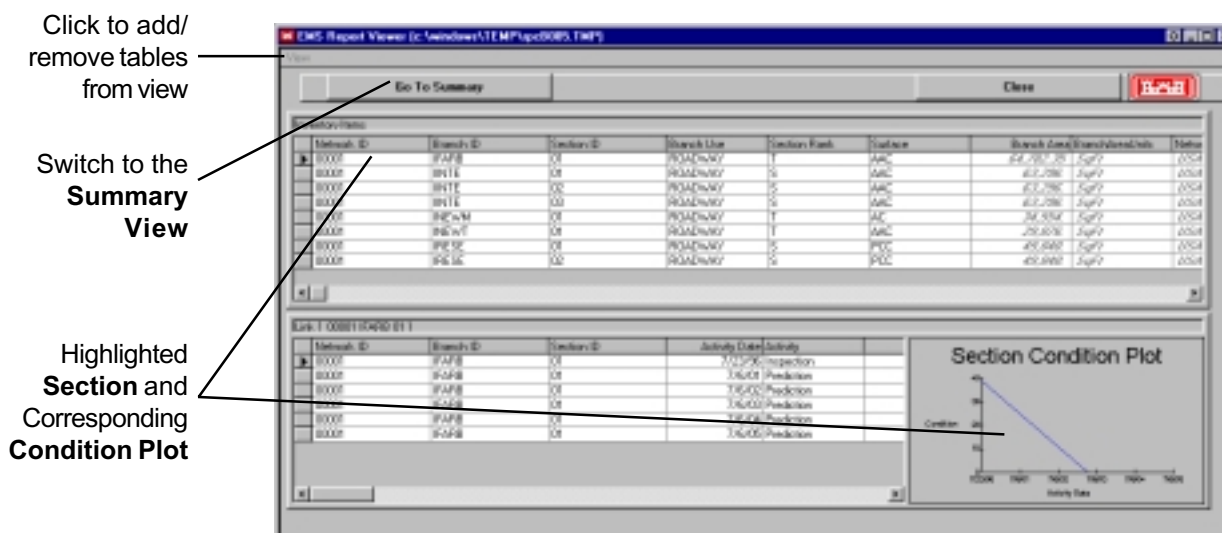
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Note

Data shown in the **Summary View** is branch level data while data shown in the **Detail View** is section level data.

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A powerful feature of the **Condition Analysis Report** is demonstrated by selecting the **Inventory Items** table and then stepping down the **Inventory Items** table slowly one row at a time. Each row in the **Inventory Items** table represents one section in your pavement network. As you change the highlighted row in the **Inventory Items** table, the **Section Condition** table updates with historical, interpolated historical, and projected condition values for that section. Each time the **Section Condition** table is updated, the graph associated with the table replots the graphical view of the section condition. With this powerful tool you can quickly analyze the history and predicted condition of your network section by section.

The detail version also allows you to overlay the **Section Condition** plot with family curve and/or the **Work History** plot. These features are turned on and off with under **View > Detail** in the **EMS Report Viewer** window. Overlaying a family curve shows how the current view is performing in comparison to a particular family model. Overlaying a work plan shows the difference between the predicted decline of a pavement (or set of pavements), and the effects your work plan scenario. The **Section Work History** view (also linked to **Inventory Items**) produces a list of all information in the work

history table - by section. Similarly, the **Inventory Work History** view displays ALL work history records for every item in the current database. The **Section Condition List** is a representation of the condition plot - for each section - for the term of the condition analysis. Highlighting a record in the table causes the graph to respond, displaying the condition information for that section only. To see an average for all sections included in the report, go back to the summary views.

In addition to the **EMS Report Viewer**, the **Condition Analysis Report** also opens a "Select GIS Views" window. This window contains a preset view linked to the results of the current Condition Analysis report. The name of the view is "Section Conditions by Year" and can be viewed by double clicking on the GIS tree selector in this window. The resulting display is a year-by-year view of the conditions of each section included in the condition analysis. This GIS view is an excellent tool to quickly show the difference in condition from year to year.

Click to add/remove tables from view

Switch to the **Summary View**

Highlighted **Section** and Corresponding **Condition Plot**

Open Saved Report

If desired, a previously saved report can also be viewed without "rerunning" (i.e. without PAVER recalculating and searching the database for changes). This can save considerable time for long reports. Selecting the **Open Saved Report** option opens the Windows file search tool that looks specifically for any file with the ".RPC" extension. Highlighting an RPC file and choosing **Open** brings up the **Condition Analysis** report and you can work with it as you would any other **Condition Analysis** report.